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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,412	12/07/2001	Russel Shirley	AMDA.499C1 (TT4002/03C1)	6042

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Attention of: Robert J. Crawford
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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,412

Applicant(s)

SHIRLEY ET AL.

Examiner

Paul L Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The request for reconsideration filed 1/14/03 has been received and considered. Claims 1-6 and 8-15 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, and 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Wiesler et al (US2001/0047222). The claimed invention reads on Wiesler et al as follows:

Wiesler et al discloses (claim 1) a computer-based automated method for tracking the movement of masks (reticle is considered a mask, paragraph 14 lines 1-2) used in a wafer processing facility (paragraphs 5, 15-17), the masks being moved in mask pods (reticle carriers, paragraphs 5, 6), the method comprising for each mask, generating mask data that includes a mask identification code (figures 3a, paragraph 19), using a computer (reference number 204) to process the mask data, including cross-referencing respective mask identification codes to pod identification codes (figure 3A, Reticle ID, Reticle Carrier ID, paragraph 19, claims 3, 4), updating the mask data to include a facility location identification code (storage of reticle in stocker, figure 3B, Current Location), (claim 2) wherein said updating occurs as each mask moves to a subsequent location during wafer processing (figure 3B, including current and last locations) and said updating includes adding a tool identification code to the mask data set when

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the mask arrives to a tool location (processing stations, paragraph 15, figure 3B, current and last locations), (claim 3) after said updating, further including creating a historical database for the mask data corresponding to each mask and tracking the movement of each mask when the mask arrives to a new location (paragraph 5, figure 3B, current and last locations, paragraph 19), (claim 4) after the updating step, further including the step of providing a material control system that sends a selected mask to a new location (paragraph 17), thereby triggering all update of the mask data set for the selected mask when the mask arrives to the new location (paragraphs 5, 17), (claim 5) further including storing mask data (paragraphs 5, 19, figure 3), (claim 6) wherein storing mask data includes using the computer to track the condition of each mask (paragraphs 5, 17, 20), the mask condition including particle contamination, mask degradation, number of exposures, number of times mask is handled and mask structural defects (figure 3E, reference number 310), wherein the masks are selected from the group consisting of reticles, wafer processing masks and solder bump masks (paragraph 14), (claim 9) further including matching the mask to a carrier (figure 3A, reticle ID, reticle carrier ID), the carrier having a carrier identification code (reticle carrier ID, figure 3B) and storing the carrier identification code data as part of the mask data (figure 3B, paragraph 19), (claim 10) further including tracking the mask movement from a material stocker, through a stepper and through an inspection tool while in a mask pod (paragraphs 15, 16), (claim 11) a system (figure 2, paragraphs 17, 18) for tracking the movement of masks used in a wafer processing facility (paragraphs 5, 6), the masks being moved in mask pods (reticle carriers), the system comprising for each mask, means for generating mask data that includes a mask identification code (figure 3A, paragraph 19), and computer means for processing the mask data (reference numbers 202, 204), including cross-referencing respective

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mask identification codes to pod identification codes (figure 3A, reticle ID, reticle carrier ID, paragraph 19, claims 3, 4) and updating the mask data to include a facility location identification code (storage of reticle in stocker, figure 3B, current location), (claim 12) further including a material handling system adapted to move the masks and mask pods to multiple locations in the wafer processing facility (paragraph 16), (claim 13) wherein the mask data set further includes a tool identification code, generated when the mask arrives to a new tool location, that is stored in the computer means (figure 3B, current and last location, processing station, paragraph 15), (claim 14) a computer-based automated method for tracking the movement of masks (reticles) used in a wafer processing facility (paragraphs 5, 6), the masks being moved in mask pods (reticle carriers, paragraphs 5, 6), the method comprising for each mask, generating mask data that includes a mask identification code (figure 3A, paragraph 19), using a computer (reference number 204) to process the mask data, including cross-referencing respective mask identification codes to pod identification codes (figure 3A, reticle ID, reticle carrier ID, paragraph 19, claims 3, 4) and updating the mask data to include a facility location identification code (storage of reticle in stocker, figure 3B, current location), conducting a degradation analysis on each mask that includes a comparison of the mask data to a mask baseline specification so as to generate degradation data for each mask (figure 3B, inspection, figure 3E, inspection results, paragraph 20), and analyzing and tracking the mask degradation data to determine the useful life of each mask (paragraph 20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiesler et al (US 2001/0047222 A1) in view of Terao (U.S. Pat 5,191,535).

Wiesler et al teaches most all of the instant invention as applied to claims 1-7 and 9-14 above. Wiesler et al fails to teach wherein said storing mask data includes using the computer to match a reticle (functionally same as a mask) and a wafer lot to an event on a processing line.

Terao teaches using the computer to match a mask (reticle is functionally same as a mask) and a wafer lot to an event on a processing line (col. 1 lines 32-55).

Wiesler et al and Terao are analogous art because they are both directed to a reticle or mask handling systems.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the matching of reticles to wafer lots of Terao in the reticle management system of Wiesler et al because Terao teaches that the identification of a "to be

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processed lot” and mask prior to processing by a production unit reduces standing time of the production unit, therefore reducing overall production time (col. 3 lines 5-12), using a computer control system is also known and taught to provide faster processing of mask data, which was previously done manually (col. 1 lines 10-20), these reasons provide adequate motivation to combine the teachings of these references.

Response to Arguments

6. Applicant's arguments filed 1/14/03 have been fully considered but they are not persuasive.

Regarding applicants' argument that U.S. Pub 2001/0047222 (now referred to as '222) is not prior art based upon the filing date. As stated by the applicant, the examiner has relied upon the provisional filing date of '222. In response to this argument the examiner has reviewed the contents of provisional application 60/199,453 and has concluded that '222 is fully supported by the disclosure of the material presented in the provisional document and this rejection is maintained. Applicant is directed to 37 C.F.R. 1.14(c)(1)(i) which requires a written request and payment of appropriate fees to obtain a copy of the provisional application.

Applicant argues that the application is directed to mask identification and that the reticles of '222 do not correspond to the masks of the instant application. Examiner points out that the claims simply refer to “masks”, '222 refers to a mask, specifically a photo mask but it is still a mask. The instant application on pg. 3 line 25 also defines masks and reticles as the same. Finally, the examiner found during a non-patent literature search (semiconductorglossary.com) that the definition for reticle states “functionally same as mask”. Therefore the applicant's arguments are not persuasive and the rejection is maintained.

Applicant argued that U.S. Pat 5,191,535 (now referred to as '535) does not mention a reticle or a reticle serial number. Examiner points out that '535 is directed toward a "mask control system", the mask of '535 corresponds to the reticle (or photo mask) of '222 therefore the terms mask and reticle are considered interchangeable and the two references are considered to be directed toward reticles and or masks. Regarding the reticle serial number, '222 clearly teaches the reticle serial number, which is referred to as a "reticle ID" and is considered supported by the 102 rejection. '535 is relied upon for the correlation between a mask (or reticle), a wafer lot and an event in processing. '535 states that there is a means to identify the mask corresponding to a lot, "a searching means for a mask", therefore the combination of teachings is considered by the examiner to provide adequate support of the claimed invention.

Applicant argues that no evidence has been provided for using '222 with masks. Examiner directs applicant to paragraph 14 line 1, a reticle is a mask. Motivation is evident and the 103 rejection is maintained.

Applicant argues that the combination (of references) would undermine the purpose of '222 and would add complexity and time to assess reticle data. This argument is not persuasive. '222 teaches movement of reticles (masks) through various processes and tracks their history, it is the examiners position that adding the correlation of the reticle (mask) to a wafer lot (teaching of '535) would not add any more complexity or add any significant amount of assessment time to the data in the management system of '222.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

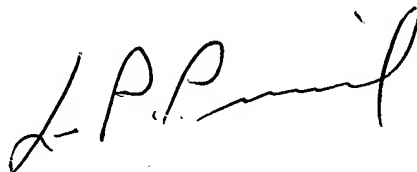
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L Rodriguez whose telephone number is (703) 305-7399. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

Paul L Rodriguez
Examiner
Art Unit 2125



PLR
February 12, 2003

LEO PICARD
SUPERVISORY PATENT EXAMINER
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